MULTIMEDIA UNIVERSITY

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 2, 2016 / 2017

PBC0016–BASIC COMPUTING AND PROGRAMMING

(Foundation in Engineering)

27 FEBBRUARY 2017
2.30 p.m. - 4.30 p.m.
(2 Hours)

INSTRUCTIONS TO STUDENT

1. This question paper consists of **FOUR** printed pages with **FOUR** questions.
2. Answer **ALL** questions.
3. Write your answers in the Answer Booklet.

QUESTION 1

(a) Compare TWO differences between 1st generation and 2nd generation computers.
[6 marks]

(b) Explain THREE characteristics of a server.
[6 marks]

(c) Describe the four steps of machine cycle in the central processing unit (CPU) of a computer.
[8 marks]

(d) Discuss TWO advantages and TWO disadvantages of using the computer.
[5 marks]

QUESTION 2

(a) Discuss TWO advantages of cloud storage as a means of storage of computer data.
[4 marks]

(b) Describe THREE types of computer ports and their respective uses.
[6 marks]

(c) Discuss the functions of the following utility programs:
(i) disk defragmenter
(ii) file manager
(iii) disk cleanup utility
[9 marks]

(d) **Table 1** shows the options for a memory upgrade for Company X server. Determine which storage is the *cheaper* solution for Company X?

Table 1: Storage Options for Company X

Storage	Price Per Unit (RM)
20GB	200.00
1 TB	12,000.00

[6 marks]

Continued ....

QUESTION 3

(a) Using a table, list FOUR differences between IPv4 and IPv6?

[8 marks]

(b) With the aid of a diagram, describe the peer-to-peer network architecture. What are the advantages of this architecture?

[7 marks]

(c) Describe TWO importance of the Internet in helping the growth of the economy of a country.

[4 marks]

(d) Giving suitable examples, describe the difference in how lossy and lossless compression is achieved.

[6 marks]

Continued ....

QUESTION 4

(a) List the six steps to designing a computer programme.

[6 marks]

(a) Assign the appropriate data types (e.g. `long`) and format string (e.g. `%x`) to the following values:

	Value	Data Type	Format String
E.g.	0x2F	long	%x
(i)	2.24		
(ii)	'd'		
(iii)	69		

[1 mark]
[1 mark]
[1 mark]

(b) Determine the output on the computer screen for the following codes:

[10 marks]

```
#include <stdio.h>
 int main () {
   int i, j;
      for(i = 2; i<30; i++)
{
      for(j = 2; j <= (i/j); j++)
         if((i%j)==0) break;
         if(j > (i/j)) printf("%d \n", i);
   }
    return 0;
}
```

(c) Write a complete C program that is able determine the largest of three numbers. The numbers entered can be negative, positive, whole numbers or decimals. Your program must use the nested `if...else` statement. A sample of the output is shown in Figure Q4 (b).

[9 marks]

```
Please enter three numbers: -8.5
29
3.7
29 is the largest number
```

Figure Q4(d): Sample of output

End of Paper